

Amendments in the Specification

Please replace paragraph [0049] with the following amended paragraphs:

[0049] Figure 5 is a flow chart of the third method. Figure 6 is a simplified block diagram of the apparatus 600 used to implement the third method. The third method relies on generating a reference CDMA pilot on the same RF carrier frequency as the pilot being transmitted by a Base Station 602 (STEP 501). The reference CDMA pilot has a known and calibrated relationship to a timing reference signal, such as the global GPS 1 PPS. One method for generating such a CDMA reference pilot is to use a CDMA Base Station simulator 604, such as a CMD80 from Tektronix. These Base Station simulators [[602]] 604 generate a CDMA pilot at any desired frequency. Such simulators [[602]] 604 also have provisions to output the “Even Second” tick of the CDMA system timing (i.e., indications at two second intervals calibrated to occur on a GPS 1 PPS occurrence). Since the synchronization frame and traffic frames in CDMA fit within 80ms, the 1 second tick and the CDMA frames line up every 2 seconds. Hence a zero PN offset pilot and an even second should line up coming out of [[a]] the Base Station simulator [[602]] 604.

[0049a] At the Base Station 602, we use a timing GPS receiver 606, such as a Trimble Thunderbolt, to generate the GPS 1 PPS. Furthermore, we lock the Base Station simulator 604 to the GPS frequency reference by using the 10MHz output of the timing GPS receiver 606 (STEP 502). This eliminates drift between the 1 PPS from the timing GPS receiver 606 and the Even Second from the Base Station simulator 604 relative to one another. The time offset between the Even Second from the Base Station simulator 604 and the 1 PPS from the timing GPS receiver 606 is then measured.

[0049b] Having done that we now know the time offset between the pilot generated by the Base Station simulator 604 and the GPS 1PPS. An RF combiner 608 is used to RF combine the pilot generated by the Base Station simulator 604 with the signal coming out of the Base Station antenna 610 and pipe it into a device capable of determining the relative timing between the combined signals (STEP 503). One such device is a conventional CDMA Mobile Station 612. A searcher 614 in the Mobile Station 612 determines and reports the time offset between the two pilots (STEP 504). By knowing this offset and the offset between the Even Second tick in the Base Station simulator 604 and the GPS 1PPS we are able to determine the time offset of the Pilot PN roll at the Base Station antenna 610 as it relates to the GPS 1PPS.

Please replace paragraph [0050] with the following amended paragraph:

[0050] If the above procedure is performed at the Base Station controller, there are two sources of error. The first source of error [[is]] comes from the need for a GPS RF feed. Fortunately every CDMA Base Station has a GPS receiver and therefore has GPS RF signal available. Interruption of this RF path for purposes of calibration does not affect the Base Station function because of the accurate free wheeling ability of its own GPS receiver during GPS signal outages. However, the length of the RF cable to the GPS antenna in clear view of the sky must be calibrated out since it introduces time offset into the measurements.